

Catalog Number Explanation

Kinetix 6000 (Bulletin 2094) drive catalog numbers and descriptions are listed in the following tables.

IMPORTANT Throughout this publication, when the IAM or AM module catalog number is followed by -x, for example 2094-BMP5-x, the variable (x) indicates that the drive module may or may not include the safe torque-off feature.

Table 3 - Kinetix 6000 Drive Catalog Numbers

Integrated Axis Modules (230V)	Cat. No. (with safe torque-off feature)	Cat. No. (without safe torque-off feature)
Kinetix 6000, IAM, 200V-class, 3 kW converter, 5 A inverter	2094-AC05-MP5-S	2094-AC05-MP5
Kinetix 6000, IAM, 200V-class, 3 kW converter, 9 A inverter	2094-AC05-M01-S	2094-AC05-M01
Kinetix 6000, IAM, 200V-class, 6 kW converter, 15 A inverter	2094-AC09-M02-S	2094-AC09-M02
Kinetix 6000, IAM, 200V-class, 11 kW converter, 24 A inverter	2094-AC16-M03-S	2094-AC16-M03
Kinetix 6000, IAM, 200V-class, 23 kW converter, 49 A inverter	2094-AC32-M05-S	2094-AC32-M05
Integrated Axis Modules (460V)		
Kinetix 6000, IAM, 400V-class, 6 kW converter, 4 A inverter	2094-BC01-MP5-S ⁽¹⁾	2094-BC01-MP5
Kinetix 6000, IAM, 400V-class, 6 kW converter, 9 A inverter	2094-BC01-M01-S ⁽¹⁾	2094-BC01-M01
Kinetix 6000, IAM, 400V-class, 15 kW converter, 15 A inverter	2094-BC02-M02-S ⁽¹⁾	2094-BC02-M02
Kinetix 6000, IAM, 400V-class, 28 kW converter, 30 A inverter	2094-BC04-M03-S ⁽¹⁾	2094-BC04-M03
Kinetix 6000, IAM, 400V-class, 45 kW converter, 49 A inverter	2094-BC07-M05-S ⁽²⁾	2094-BC07-M05
Axis Modules (230V)		
Kinetix 6000, AM, 200V-class, 5 A	2094-AMP5-S	2094-AMP5
Kinetix 6000, AM, 200V-class, 9 A	2094-AM01-S	2094-AM01
Kinetix 6000, AM, 200V-class, 15 A	2094-AM02-S	2094-AM02
Kinetix 6000, AM, 200V-class, 24 A	2094-AM03-S	2094-AM03
Kinetix 6000, AM, 200V-class, 49 A	2094-AM05-S	2094-AM05
Axis Modules (460V)		
Kinetix 6000, AM, 400V-class, 4 A	2094-BMP5-S ⁽¹⁾	2094-BMP5
Kinetix 6000, AM, 400V-class, 9 A	2094-BM01-S ⁽¹⁾	2094-BM01
Kinetix 6000, AM, 400V-class, 15 A	2094-BM02-S ⁽¹⁾	2094-BM02
Kinetix 6000, AM, 400V-class, 30 A	2094-BM03-S ⁽¹⁾	2094-BM03
Kinetix 6000, AM, 400V-class, 49 A	2094-BM05-S ⁽²⁾	2094-BM05

(1) You can configure the peak inverter current rating of this 460V (series B and later) IAM or AM module for 250% of continuous inverter current.

(2) You can configure the peak inverter current rating of this 460V (series B and later) IAM or AM module for 200% of continuous inverter current. Refer to [Peak Enhancement Specifications on page 59](#), for more information on drive performance in the peak-enhanced mode.

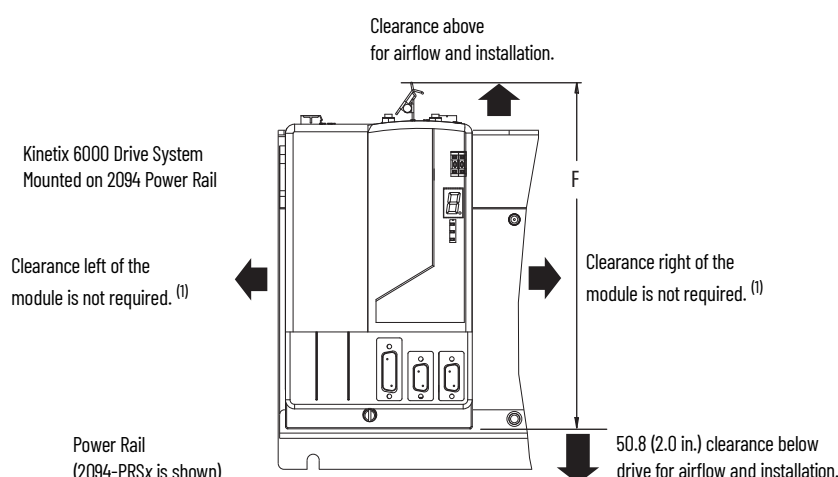
Table 4 - Kinetix 6000 Drive Component Catalog Numbers

Drive Components	Cat. No.
Integrated power interface (IPIM) module, 400V-class, 15 kW, 24 A (rms)	2094-SEPM-B24-S
Kinetix 6000 shunt module, 200/400V-class, 200 W	2094-BSP2
Kinetix 6000 slot-filler module, 200/400V-class	2094-PRF

Figure 7 illustrates minimum clearance requirements for proper airflow and installation:

- Additional clearance is required for the cables and wires connected to the top and front of the drive.
- Additional clearance left and right of the power rail is required when the drive is mounted adjacent to noise sensitive equipment or clean wireways.

Figure 7 - Minimum Clearance Requirements



Refer to Table 12 on page 26, and Kinetix 3, 300, 350, 2000, 6000, 6200, 6500, 7000 Servo Drives Specifications, publication [KNX-TD005](#), for Kinetix 6000 drive dimensions.

- (1) The power rail (slim), catalog number 2094-PRx, extends left and right of the first and last module 5.0 mm (0.20 in.). The Bulletin 2094-PRx power rail extends approximately 25.4 mm (1.0 in.) left of the IAM module and right of the last module mounted on the rail.

Drive Cat. No.	Series	F
2094-AC05-Mxx-x 2094-AC09-M02-x	A, C, D, and E	237 mm (9.3) in.
2094-AMP5-x, 2094-AM01-x, 2094-AM02-x		
2094-AC16-M03-x 2094-AC32-M05-x		
2094-AM03-x, 2094-AM05-x		
2094-BC01-Mxx-x 2094-BC02-M02-x	A, B, C, D, and E	285 mm (11.2) in.
2094-BMP5-x, 2094-BM01-x, 2094-BM02-x		
2094-SEPM-B24-S 2094-BSP2		
2094-BC04-M03-x 2094-BM03-x		
2094-BC07-M05-x 2094-BM05-x	A, D, and E	375 mm (14.7) in.
2094-BC07-M05-x 2094-BM05-x		
2094-BC07-M05-x 2094-BM05-x	A, D, and E	436 mm (17.2) in.

Table 13 - Minimum Cabinet Depth

Drive Cat. No.	Cabinet Depth, min ⁽¹⁾
2094-AC05-Mxx-x, 2094-AC09-M02-x, 2094-AMP5-x, 2094-AM01-x, 2094-AM02-x	198 mm (7.8 in.)
2094-BC01-Mxx-x, 2094-BC02-M02-x, 2094-BMP5-x, 2094-BM01-x, 2094-BM02-x	272 mm (10.7 in.)
2094-BSP2	272 mm (10.7 in.)

Drive Cat. No.	Cabinet Depth, min ⁽¹⁾
2094-AC16-M03-x, 2094-AC32-M05-x, 2094-AM03-x, 2094-AM05-x	198 mm (7.8 in.)
2094-BC04-M03-x, 2094-BC07-M05-x, 2094-BM03-x, 2094-BM05-x	272 mm (10.7 in.)
2094-SEPM-B24-S	263 mm (10.3 in.)

- (1) Minimum cabinet depth is based on the use of 2090-K6CK-xxxx low-profile connector kits. Other means of making feedback connections can require additional clearance.

Electrical Noise Reduction

This section outlines best practices that minimize the possibility of noise-related failures as they apply specifically to Kinetix 6000 system installations. For more information on the concept of high-frequency (HF) bonding, the ground plane principle, and electrical noise reduction, refer to the System Design for Control of Electrical Noise Reference Manual, publication [GMC-RM001](#).

HF Bond for Modules

Bonding is the practice of connecting metal chassis, assemblies, frames, shields, and enclosures to reduce the effects of electromagnetic interference (EMI).

Table 41 - Contactor Enable Relay Output Specifications

Attribute	Value	Min	Max
On-state current	Current flow when the relay is closed	-	1 A
On-state resistance	Contact resistance when the relay is closed	-	1 Ω
Off-state voltage	Voltage across the contacts when the relay is open	-	120V AC or 24V DC

Power and Relay Specifications

This section provides a description of the Kinetix 6000 brake relay (BC), input power (IPD), motor power (MP), and control power (CPD) connectors.

Motor/Resistive Brake Relay

The brake option is a spring-set holding brake that releases when voltage is applied to the brake coil in the motor. The customer-supplied 24V power supply drives the brake output through a solid-state relay (series C and later) and mechanical relays (series A and B). The solid-state brake driver circuit provides the following:

- Brake current-overload protection
- Brake over-voltage protection

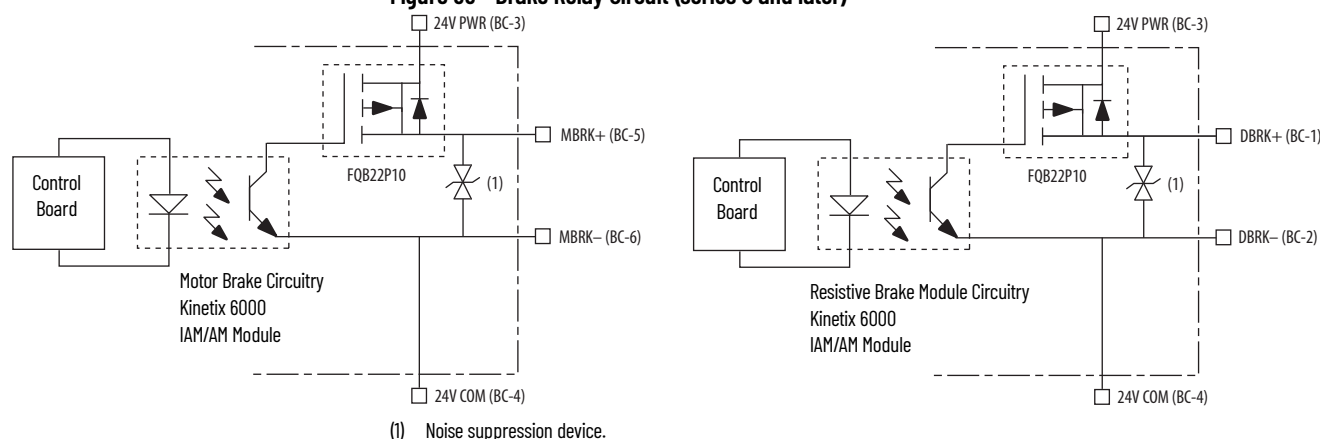
Two connections are required for the (customer-supplied) motor/resistive brake input power (BC-3 and BC-4) and two connections each for the motor and resistive brake output, as shown in [Figure 33](#). Wiring is consistent with all series releases. Connections are rated for +24V and current as shown in [Table 42](#).

Table 42 - Brake Relay Output Specifications

Attribute	Description	IAM/AM Module	Brake Current Value, max		
			Series A	Series B	Series C and later
On-state current ⁽¹⁾	Current flow when the relay is closed	2094-AC05-Mxx-x, 2094-AC09-M02-x, 2094-AMP5-x, 2094-AM01-x, 2094-AM02-x	1.0 A	N/A	3.0 A
		2094-BC01-Mxx-x, 2094-BC02-M02-x, 2094-BMP5-x, 2094-BM01-x, 2094-BM02-x		3.0 A	
		2094-AC16-M03-x, 2094-AC32-M05-x, 2094-AM03-x, 2094-AM05-x	1.3 A	N/A	
		2094-BC04-M03-x, 2094-BC07-M05-x, 2094-BM03-x, 2094-BM05-x	3.0 A	3.0 A	
On-state resistance	Contact resistance when the relay is closed		1 Ω		
Off-state voltage	Voltage across the contacts when the relay is open		30V		

(1) For motors requiring more than the maximum current specified, a relay must be added.

Figure 33 - Brake Relay Circuit (series C and later)



RBM Module Interconnect Diagrams

This appendix provides Bulletin 2090 Resistive Brake Module (RBM) interconnect diagrams specific to Kinetix® 6000 multi-axis servo-drive systems with and without the safe torque-off feature.

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Kinetix 6000 drives with the safe torque-off feature have the -S designation at the end of the catalog number. For example, the 2094-AM01-S AM module includes safe torque-off and the 2094-AM01 AM module does not.

Before You Begin

These procedures assume you have installed your RBM module with the Kinetix 6000 servo-drive system. For RBM module installation instructions, refer to the Resistive Brake Module Installation Instructions, publication [2090-IN009](#).

IMPORTANT Drive firmware revision 1.071 or later is required to use the RBM module with Kinetix 6000 drives.



ATTENTION: Use the interconnection diagrams as a general recommendation of how the control circuit can be implemented. Actual applications can vary due to requirements based on the machine builders risk assessment. The machine builder must perform a risk assessment and determine a category level of safety that must be applied to the machine.

For Kinetix 6000 drive systems, you can set the delay time for your RBM module in the Logix Designer application. Refer to [Configure Axis Properties on page 121](#).

RBM Module Wiring Examples

This example diagram shows 2094-xCxx-Mxx-S and 2094-xMxx-S drives (with safe torque-off) and 2094-ALxxS, 2094-BLxxS, and 2094-XL75S LIM modules wired with the Bulletin 2090 RBM module.